PCV59

WHERE DID THE TIME GO?: TEMPORAL UNCERTAINTY IN COST-EFFECTIVENESS DECISION MODELS

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OBJECTIVES: Since the required time horizon in a cost effectiveness decision model often exceeds the evidence time horizon, numerous temporal uncertainties arise regarding model parameters and structures. The objective of this study is to demonstrate, through a motivating example: (i) why temporal uncertainty ought to be addressed more thoroughly than it has been to date; (ii) how this uncertainty might be expressed in decision models; and (iii) the consequences for the cost-effectiveness results when temporal uncertainty is incorporated into the analysis. **METHODS:** Taking the example of a decision model seeking to estimate the cost-effectiveness of an early interventional strategy for patients with non-ST-elevation acute coronary syndrome, we firstly highlight the model components that are exposed to temporal uncertainty. Focusing on two key model parameters, we explore the extent to which the existing short-term evidence could reasonably be extrapolated over time. We then suggest a means to quantitatively convey the temporal uncertainty pertaining to these parameters within the model. **RESULTS:** Temporal uncertainty is shown to have a significant impact on the cost-effectiveness results. Value-of-Information analysis (specifically population EVPPI) suggests that for this example, it may have been more cost-effective to delay adoption recommendation until further evidence on the temporal behaviour of parameters was collected. **CONCLUSIONS:** Temporal uncertainty, though rarely formally modelled, is a significant characteristic of cost-effectiveness decision models. It is possible and desirable to express temporal uncertainty within a decision model, as the complete model may show that it is more cost-effective to collect further information on the temporal behaviour of model parameters before issuing an adoption recommendation.

PCV60

COST EFFECTIVENESS OF DABIGATRAN ETEXILATE FOR PREVENTION OF STROKE AND SYSTEMIC EMBOLISM IN NONVALVULAR ATRIAL FIBRILLATION PATIENTS IN THE TURKISH HEALTH CARE SETTING

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OBJECTIVES: To investigate the cost-effectiveness of dabigatran etexilate (dabigatran 150MG) in the Turkish health care setting. **METHODS:** A model was constructed to assess the cost-effectiveness of dabigatran versus warfarin. Direct cost of events (stroke, intracranial bleeding), physician visits, INR tests, medication and patients' hospital transfers were considered. Outcome measure is defined as the total number of events prevented per year for a population of 1000 patients. **RESULTS:** For a cohort of 1,000 patients, total cost of stroke in the warfarin arm was 468,672 TL/year and in the dabigatran arm 322,212 TL/year. Cost for intracranial bleeding events was 234,336 TL/year and 87,876 TL/year for warfarin and dabigatran, respectively. Total treatment cost in the warfarin arm was 1,395,693 TL/ year and in the dabigatran arm 1,654,728 TL/ year. The ICER for dabigatran was 25,903 TL/stroke prevented (Cost per stroke event is given as 29.292 TL in current the Turkish health care setting). **CONCLUSIONS:** A major limitation of this analysis is that it doesn't account for disability costs, which are other major direct costs of the Turkish Social Security Institution. According to the World Health Organization, for counties where a willingness to pay threshold for ICERs doesn't exist, such as in Turkey, ICERs remaining below 1-3 times of the GDP per capita per unit of health gain are deemed acceptable. Dabigatran can be considered cost-effective with an ICER per stroke avoided below the GDP per capita (31,280 TL estimated for 2012) when compared to current standard of care in Turkey, which is warfarin.

PCV61

PHARMACOECONOMIC EVALUATION OF OLMESARTAN, LOSARTAN AND VALSARTAN IN TREATMENT OF ESSENTIAL ARTERIAL HYPERTENSION

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OBJECTIVES: Olmesartan medoxomil is one of the latest angiotensin II receptor blockers (ARB) approved for use in the Russian Federation. The objective was to assess cost-effectiveness of olmesartan compared with losartan and valsartan in adult patients with mild and moderate essential arterial hypertension. **METHODS:** The study was performed by modeling and cost-effectiveness analyses. We have also assessed cost-effectiveness ratio (CER) growth rate, which represents the relative rate of change in value for the analyzed periods. Analyzed costs included brand drugs only. Efficacy data were obtained from a head-to-head clinical trial, in which office blood pressure rate, number of patients with mild and moderate arterial hypertension achieving target blood pressure in weeks 4, 8, and 12 were taken into account. Patients with diabetes mellitus and chronic renal failure were analyzed separately. The time horizon of the analysis was 12 weeks. Pairwise comparison of costs, CER, CEAincr and CER growth rate were performed separately for olmesartan vs. losartan, and olmesartan vs. valsartan. **RESULTS:** Treatment with olmesartan provides more clinical effect for less costs and demonstrates better cost-effectiveness ratio than losartan or valsartan in terms of target BP after 12 weeks. In both pairs, CER growth rate was minimal in case of olmesartan; this reflects the dynamics of this value during treatment. Similar results were obtained for comparable ARBs in patients with diabetes mellitus and renal failure. **CONCLUSIONS:** Cost-effectiveness analysis shows that treatment of mild arterial hypertension with olmesartan is more appropriate from the pharmacoeconomic point of view than losartan and valsartan, both in general group and in patients with diabetes mellitus and renal failure.

PCV62

CLINICAL AND ECONOMIC ANALYSIS OF THE EFFECTIVENESS OF ANTIHYPOXIA SUBSTANCE POLYDIHYDROXYPHENYLENETHIOSULFONATE SODIUM (HYPOXENUM) IN THE COMPLEX ANGINA PECTORIS TREATMENT

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OBJECTIVES: To evaluate the economic feasibility of using Hypoxenum in comparison to not administering it, in the complex treatment of angina pectoris. **METHODS:** A randomized prospective controlled study on typical practice of 200 patients who received comprehensive treatment of angina pectoris with or without Hypoxenum, was performed to assess direct medical costs and cost effectiveness ratio. **RESULTS:** Overall cost of treatment of one patient with angina pectoris within 15 days in the hospital with Hypoxenum in the combined therapy was 5 968.94 rubles. The total cost of treatment of one patient in group of typical treatment of angina pectoris was 5 294.10 rubles. As the criteria of the effectiveness of treatment were taken: indicators of performed work, threshold power, exercise tolerance test. At the end indicators of the Hypoxenum group and the typical practice group were: work performed: increased of 25.9 kJ and 15.1 kJ, respectively (differences were significant, $p<0.05$), the threshold power was 25.5 Watt and 13,2 Watt, respectively. Increased exercise tolerance was observed in 49% of patients in the Hypoxenum group and in 28% of patients in the control group. The cost- effectiveness ratio for the criterion of completed work was 230.4 rubles and 350.6 rubles, for threshold power - 234.07. and 401.06 rubles, for increasing of exercise tolerance - 12 181.51 rubles and 18 907.50 rubles for Hypoxenum and typical practice, respectively. **CONCLUSIONS:** The cost-effectiveness study on the dynamics of tolerance of exercise compared to typical practice, revealed that treatment of angina pectoris, with Hypoxenum is a clinically and economically feasible.

PCV64

COST-EFFECTIVENESS OF TICAGRELOR IN THE MANAGEMENT OF ACUTE CORONARY SYNDROMES IN BELGIUM

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OBJECTIVES: A randomized phase-III clinical trial (PLATO) showed that a 1-year dual antiplatelet treatment with ticagrelor and aspirin (ASA) reduced the composite endpoint of cardiovascular death, myocardial infarction (MI), and stroke without an increase in major bleedings compared to the combination clopidogrel-ASA in patients with acute coronary syndromes (ACS). Using a model based on the PLATO outcomes, we assessed the cost-effectiveness of ticagrelor-ASA vs. clopidogrel-ASA in ACS patients in Belgium. **METHODS:** The model developed in TreeAge combined a decision tree for the first year of treatment and a Markov model with a lifelong time horizon using 1 year cycles. First year probabilities of events (cardiovascular death, MI, strokes, bleedings) were derived from the PLATO study. In subsequent years, transition probabilities between health states (event-free, post-MI, post-stroke, death) were obtained from a previously published HTA-model on clopidogrel-ASA in ACS. Utility data was provided by literature. Cost data was obtained from published articles and from the IMS Hospital Disease Database,. The incremental cost-effectiveness ratio (ICER) of ticagrelor vs. generic clopidogrel was calculated in terms of cost per quality-adjusted life-year (QALY) gained over a lifetime horizon from the Belgian payer perspective and evaluated against the lower WHO threshold based on 1 time the Gross Domestic Product for Belgium (around 30,000€/QALY). Annual discounting rates of 3% and 1.5% were applied on costs and effects respectively. **RESULTS:** Ticagrelor-ASA was associated with an incremental cost of €816.9 and 0.079 added QALY's (primarily driven by a reduction in MI and mortality). The ICER was 10,316€/QALY. The cost per life year gained was 6,965€. The ICERs were consistent in subgroups of patients treated invasively or not. Probabilistic sensitivity analysis showed that the ICER remained below 30,000€/QALY in 98.8% of cases (also in subgroups). **CONCLUSIONS:** Dual antiplatelet treatment with ticagrelor-ASA can be considered cost-effective compared to clopidogrel-ASA.

PCV65

A HEALTH ECONOMIC EVALUATION OF OMEGA-3 ACID ETHYL ESTERS 90 IN THE SECONDARY PREVENTION POST-MI

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OBJECTIVES: Adding omega-3 acid ethyl esters 90 (O-3EE) to standard therapies in secondary prevention after post myocardial infarction (MI) significantly reduces sudden death. This study evaluates the cost-effectiveness of adding 1g O-3EE to current secondary prevention treatment after acute MI in the Irish and Estonian public health care systems. **METHODS:** Based on GISSI-Prevenzione trial outcomes (MI, stroke, revascularisation rate, mortality), two models for Ireland and Estonia were developed, using a lifetime and 3.5-years (GISSI-Prevenzione trial duration) time horizons with 1-year cycles. Local event costs were based on AR-DRGs (Ireland) and NordDRGs tariffs (Estonia). Life expectancy data (12.9 years) for survivors of cardiac disease (15,590 cases) were obtained from the Saskatchewan database and country-adjusted. Annual discounting of 4% (Ireland) and 5% (Estonia) was applied on outcomes and costs. Incremental cost (€) per life year gained (LYG) and Quality of Adjusted Life years Gained (QALYG) were calculated from the public payer perspective. **RESULTS:** Lifelong treatment with O-3EE yielded 0.26 LYG, 0.19 QALYG (Ireland) and 0.24 LYG (Estonia) with an additional total direct cost of €1,624 (Ireland) and €1,218 (Estonia) resulting in an incremental cost-effectiveness ratio (ICER) of €6,223/LYG and €8,210/QALYG (Ireland) and €5,079/LYG (Estonia). Respective ICERs at 3.5-years were €18,686/LYG, €23,527/QALYG for Ireland and €28,797/